

WHAT IS CLAIMED IS:

1. A reproduction equipment comprising:

a digital watermark generating means;

5 said digital watermark generating means including means for generating a digital watermark containing attribute information that specifies a reproduction equipment;

a digital watermark embedding means;

10 said digital watermark embedding means including means for generating watermark-embedded AV signals which embeds said digital watermark in said AV signals; and

output means for outputting said watermark-embedded AV signals to an exterior.

2. A reproduction equipment comprising:

a coded signal input unit for receiving coded AV signals;

15 a decoding unit including means for reproducing said AV signals from said coded signal input unit;

an identification code generating unit including means for generating an identification code by which a reproduction equipment can be specified;

20 a digital watermark embedding unit including means for embedding said identification code as a digital watermark in said AV signals input from said decoding unit; and

an output unit, which outputs to an exterior, AV signals containing embedded therein said digital watermark prepared by said digital watermark embedding unit.

25 3. A reproduction equipment as set forth in claim 2, wherein said

identification code is at least one of an equipment ID of said reproduction equipment, a card ID of an IC card connected to said reproduction equipment, a user ID of a user, a raw material ID of said AV signals, a medium ID of a recording medium in which said AV signals are stored, a reproduction date and time, and an initial value of a signal sequence to be embedded as said digital watermark.

4. A reproduction equipment as set forth in claim 2, wherein an output of said identification code generating unit includes a plurality of signal sequences, and a table of correspondence of at least one of character strings and numbers, that express identification codes, and means for employing a correspondence for selection of said signal sequences.

5. A reproduction equipment as set forth in claim 4, further comprising: means for converting said identification code into a binary bit string; and means for selecting a plurality of signal sequences, which correspond to the positions of the converted bit string that take on a specific value.

6. A reproduction equipment as set forth in claim 4, wherein said plurality of signal sequences are signal sequences with which cross correlation values are smaller than a previously set threshold value.

7. A reproduction equipment as set forth in claim 4, wherein said digital watermark embedding unit embeds a different signal sequence in each of a predetermined unit of said AV signals.

8. A reproduction equipment as set forth in claim 7, wherein said digital watermark embedding unit embeds a plurality of signal sequences, to be embedded as the digital watermark, randomly at a same proportion per fixed time in said AV signals.

9. A recording medium as set forth in claim 1, further comprising means

for recording a copy of said watermark-embedded AV signals that are recorded by said reproduction equipment.

10. A reproduction equipment specifying equipment comprising:

an input unit;

5 means for inputting AV signals containing an identification code embedded therein as a digital watermark;

a signal sequences recording unit;

said signal sequences recording unit including means for holding a correspondence table of the same contents as that of a reproduction equipment;

10 a correlation value calculation unit including means for calculating correlation values of input AV signals and all of said signal sequences contained in said correspondence table and for outputting a maximum correlation value among correlation values obtained;

15 a threshold value setting unit including means for setting a threshold value for said correlation values;

a comparison unit including means for comparing said maximum correlation value with said threshold, and for outputting a one of said signal sequences for which said maximum correlation value exceeds said threshold value;

20 an identification code judgment unit including means for determining an identification code in accordance to said signal sequences output from said comparison unit and said correspondence table; and

an identification code output unit including means for outputting said identification code.

25 11. A reproduction equipment specifying system comprising:

a reproduction equipment;

said reproduction equipment including a reproduction equipment specifying equipment;

said reproduction equipment specifying equipment including attribute information that enables specifying at least one attribute of said reproduction equipment;

means in both said reproduction equipment and said reproduction equipment specifying equipment for containing said attribute information;

said reproduction equipment including means for embedding in an AV signal, as a digital watermark, said attribute information that enables specifying said reproduction equipment to an exterior; and

said reproduction equipment specifying equipment including means for extracting said digital watermark embedded in said AV signal and for specifying said reproduction equipment associated with said AV signal based on the extracted digital watermark.

12. A reproduction method, comprising:

generating a digital watermark;

the step of generating a digital watermark including generating a digital watermark containing attribute information that enable specifying of a reproduction equipment;

embedding said digital watermark in AV signals to produce watermark-embedded AV signals; and

outputting said watermark-embedded AV signals to an exterior.

13. A reproduction method, comprising;

inputting coded AV signals;

decoding said coded AV signals to reproduce said coded AV signals;

generating an identification code;

embedding a digital watermark containing said identification code in said input AV signals; and

outputting said AV signals containing said digital watermark.

5 14. A reproduction method as set forth in claim 13, wherein said identification code is at least one of an equipment ID of a reproduction equipment, a card ID of an IC card connected to said reproduction equipment, a user ID of a user, a raw material ID of said AV signals, a medium ID of a recording medium in which said AV signals are stored, a reproduction date and time, and an initial value of a signal sequence to be embedded as said digital watermark.

10 15. A reproduction method as set forth in claim 13, wherein:

the step of generating an identification code includes using a plurality of signal sequences, and a table of correspondence of at least one of character strings and numbers that express identification codes to select a one of said plurality of said signal sequences.

15 16. A reproduction method as set forth in claim 15, further comprising: converting said identification code into a binary bit string; and selecting a plurality of signal sequences, which correspond to positions of said converted bit string that take on a specific value.

20 17. A reproduction method as set forth in claim 15, wherein the plurality of signal sequences are signal sequences having cross correlation values that are smaller than a previously set threshold value.

18. A reproduction method as set forth in claim 15, wherein the step of embedding includes embedding a different signal sequence in each of a predetermined unit of the AV signals.

25 19. A reproduction method as set forth in claim 18, wherein the step of embedding includes embedding said plurality of signal sequences randomly at the

same proportions per fixed time in said AV signals.

20. A recording medium, in which watermark-embedded AV signals are recorded by the reproduction method of claim 12.

21. A reproduction equipment specifying method, comprising:

5 inputting AV signals containing an identification code embedded therein as a digital watermark;

 holding a correspondence table of the same contents as that in a reproduction equipment,

10 calculating correlation values of the input AV signals and all signal sequences included in said correspondence table and outputting a maximum correlation value among said correlation values;

 setting a threshold value for said correlation values;

15 comparing said maximum correlation value with said threshold value and outputting a one of said signal sequences for which said maximum correlation value exceeds said threshold value;

 determining an identification code in accordance with said one of said signal sequences with contents of said correspondence table; and

 outputting said determined identification code.

20 22. A method for operating a recording medium, in which a reproduction program is recorded, comprising:

 generating a digital watermark containing attribute information, by which a reproduction equipment can be specified;

 embedding said digital watermark in AV signals to produce watermark-embedded AV signals; and

25 outputting said watermark-embedded AV signals to an exterior.

23. A recording medium, in which a reproduction equipment specifying

program is recorded, comprising:

inputting AV signals containing an identification code embedded therein
as a digital watermark;

5 holding a correspondence table of a same contents as that in a
reproduction equipment,

calculating correlation values between the input AV signals and all signal
sequences included in said correspondence table and outputting a maximum
correlation value among correlation values obtained;

setting a threshold value for said correlation values;

10 comparing said maximum correlation value with said the set threshold
value and outputting a signal sequence for which said maximum correlation value
exceeds said threshold value;

determining an identification code in accordance with said output signal
sequence and said correspondence table; and

15 outputting said identification code.

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